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"Three shillings," was the answer.

"Three shillings!" we rejoined, with a look of astonishment; "why, we had no idea that your charge would be any thing like so much. What," we asked, "is the cause of this unusual demand?"

"Why, sir, the price of my machine. But I'll sweep the chimney with the boy there for a shilling."

"And pray, sir, what did your machine cost?"

"Two pounds!"

"Indeed," I replied; "and what was the cost of the boy?"

"Ten shillings; and do you think, sir, I could sweep with my machine, which cost me so much, at the same rate as I could charge for the boy, that cost me only ten shillings?"

There was no replying to logic so conclusive as this; and we think it right to give it publicity, in the hope that it may meet the eyes of some of our readers at the other side of the Atlantic, who may be induced to rid us of some of our superabundant population, by importing our black boys, which they can get, even including the expense of carriage, at so much cheaper a rate here than they can procure them at home! G.

### ELEVATION OF THE LABOURING CLASSES.

WE have to express our thanks to the Westminster Review for the publication of two MS. letters to Leonard Horner, Esq. one of the factory inspectors, from the proprietor of a cotton mill in the north of England, whose modesty it is to be regretted prohibits the publication of his name, and has hitherto prevented the publication of these letters.

The introductory article in the Review contains some admirable strictures upon the radical defect of governments failing to perceive that the elevation of the people, in a moral and physical point of view, is not only one, but the fundamental duty of legislators. The writer points out that in all countries and ages to the present time, those who have been placed at the head of public affairs have had little or no leisure, if they possessed the inclination, to study schemes of human improvement; their time has been occupied in maintaining order, making war, and raising a revenue for these and similar objects, whereas the necessity for police and armies would be lessened by striking at the root of the evil, and elevating the "hewers of wood and drawers of water" in the scale of intelligence and happiness.

"Melancholy," says the writer, "is the result of centuries of mischievous and often wicked legislation, in the impression it has left upon the mind of the public. Long after a government has ceased to do evil, it is left powerless for good by the universal distrust with which it is regarded. The people have yet to learn to place confidence in their own servants, and to support when needed in their persons their own authority, instead of seeking to overturn it as that of tyrants or masters. So numerous have been the evils which have arisen from unwise interference, that an opinion very widely prevails that a government can do nothing but mischief; and the almost universal prayer of the people is to be left alone." Again he says, "Why should it not be borne in mind that there are higher objects for human exertion, whether for individuals or communities, than the greatest possible aggregate of wealth? And although the realization of those objects in our time may be but the visionary dream of the philanthropist, let no one say that good will not arise from keeping them steadily in view."

And to explain his sentiments upon the subject of the elevation of the labouring classes, he quotes the following paragraph from Dr Channing's first lecture, delivered at a meeting of the Mechanic Apprentices' Library Association at Boston:

"By the elevation of the labourer I do not understand that he is to be raised above the need of labour. I do not expect a series of improvements by which he is to be released from his daily work. Still more, I have no desire to dismiss him from his workshop and farm, to take the spade and axe from his hand, and to make his life a long holiday. I have faith in labour, and I see the goodness of God in placing us in a world where labour alone can keep us alive. I would not change, if I could, our subjection to physical laws, our exposure to hunger and cold, and the necessity of constant conflicts with the material world. I would not, if I could, so temper the elements that they should infuse into us only grateful sensations, that they should make vegetation so exuberant as to anticipate every want, and the minerals so ductile as to offer no resistance to our strength or skill. Such a world would make a contemptible race. Man owes his growth, his energy, chiefly

to that striving of the will, that conflict with difficulty, which we call effort. Easy, pleasant work does not make robust minds, does not give men a consciousness of their powers, does not train them to endurance, to perseverance, to steady force of will, that force without which all other acquisitions will avail nothing. Manual labour is a school in which men are placed to get energy of purpose and character—a vastly more important endowment than all the learning of all other schools. They are placed indeed under hard masters, physical sufferings and wants, the power of fearful elements, and the vicissitudes of all human things; but these stern teachers do a work which no compassionate indulgent friend could do for us, and true wisdom will bless Providence for their sharp ministry. I have great faith in hard work. The material world does much for the mind by its beauty and order; but it does more by the pains it inflicts; by its obstinate resistance, which nothing but patient toil can overcome; by its vast forces, which nothing but unremitting skill and effort can turn to our use; by its perils, which demand continual vigilance; and by its tendencies to decay. I believe that difficulties are more important to the human mind than what we call assistances. Work we all must, if we mean to bring out and perfect our nature. Even if we do not work with the hands, we must undergo equivalent toil in some other direction. \* \* \* You will here see that to me labour has great dignity. Alas for the man who has not learned to work! He is a poor creature; he does not know himself."

That the labouring classes can be greatly, immeasurably elevated in the social scale, without relieving them from the least portion of that labour entailed upon the race of Adam, is beautifully exemplified in the mill-owner's letters which follow the article from which the foregoing has been extracted. We regret that their length far exceeds the utmost space which we could afford them, or we should present them to our readers in full. The account which they give of the social condition of the operatives employed in the writer's factory, more resembles the details of a Utopian scheme than of one actually carried into effect by a single philanthropic individual.

The first letter describes the wretched and dilapidated state of the mill, and destitute condition of the few persons living about it, at the time (1832) that the writer and his brothers took it, and proceeded to rebuild and furnish it. This and the collection of the necessary hands occupied two years. In employing operatives they selected only the most respectable, such as were likely to settle down permanently wherever they should feel comfortably situated; and in order to hold out inducements, these gentlemen broke up three fields in front of the workmen's cottages into gardens of about six rods each, separated by neat thorn hedges. Besides which, each house had a small flower-garden either in front or rear, and the houses themselves were made as comfortable as possible.

When the mill was completed and the population numerous, the proprietor called a meeting of all the workmen, and proposed the establishment of a Sunday school for the children. The proposal was gladly received, and some of the men were appointed teachers. He then built a schoolroom for the girls, and the boys had the use of a cellar; but he subsequently built a schoolroom for them also. In the girls' school were 160 children, and in the boys' 120. Each was placed under the management of a superintendent and a certain number of teachers, whose services were given gratuitously; and they relieved each other, so that each was obliged to attend only every third Sunday. They were all young men and women belonging to the mill, the proprietor taking no further part in the management than spending an hour or two in the room. As soon as the school was fairly established, the proprietor turned his attention to the establishment of games and gymnastic exercises amongst the people, and having set apart a field he called together some of the boys one fine afternoon, and commenced operations with quoits, trap and cricket balls, and leap-frog. The numbers quickly increased, regulations and rules were made, the girls got a portion of the field to themselves, and there were persons appointed to preserve order. The following summer he put up a swing, introduced the game called *Les Graces*, and bowls, a leaping-bar, a tight-rope, and a seesaw. Quoits became the favourite game of the men, hoops and tight-rope of the boys, and hoops and swing of the girls, the latter being in constant requisition. He at first found some difficulty in checking rudeness, but being constantly on the spot, it was soon corrected, and gradually quite wore away. The play-ground was only opened on Saturday evenings or holidays during the summer. He next got up drawing and

singing classes. The drawing-class, taught by himself, on Saturday evenings during the winter, from six to half past seven—half the time being spent in drawing, and the remainder with geography or natural history. To those pupils he lent drawings to copy during the evenings of the week, thereby giving them useful and agreeable employment for their leisure hours, and attracting them to their home fireside.

The breaking up of the drawing-class at half past seven gave room to the singing-class until nine. The superintendent of the Sunday school took charge of this class, which became at once very popular, especially with the girls. But what he seems to consider the most successful of his plans for the civilising of his people, was the establishment of regular evening parties during the winter, the number invited to each being about thirty, an equal number of boys and girls, and specially invited by a little printed card being sent to each. This afforded a mark of high distinction, only the best behaved and most respectable, or, as he calls them, "the aristocracy," being invited. These parties are held in the school-room, which he fitted up handsomely, and furnished with pictures, busts, &c, and a piano-forte. When the party first assemble, they have books, magazines, and drawings, to amuse them. Tea and coffee are then handed round, and the proprietor walks about and converses with them, so as to render their manners and conversation unembarrassed; and after tea, games are introduced, such as dissected maps or pictures, splicans, chess, draughts, card-houses, phantasmagoria, and others, whilst some prefer reading or chatting. Sometimes there is music and singing, and then a wind-up with Christmas games, such as tierce, my lady's toilet, blindman's-buff, &c, previous to retiring, the party usually breaking up a little after nine. These parties are given to the grown-up boys and girls, but he sometimes also treats the juniors, when they have great diversion. The parties are given on Saturday evenings about once in three weeks, the drawing and singing being given up for that day.

He next established warm baths at an expense of £80, and issued bathing tickets for 1d. each, or families subscribing 1s. per month were entitled to five baths weekly; and with an account of the arrangements of the baths, the receipts, &c, he concludes his first letter, which appears to have been written about the year 1835.

In the second letter, dated March 1838, he develops the principles upon which he acted, and the objects which he had in view, in answer to the request of Mr Horner. His object he avows to be "the elevation of the labouring classes," or, to use his own language, "promoting the welfare of the manufacturing population, and raising them to that degree of intellectual and social advancement of which I believe them capable." And amongst the matters which he considers necessary to the attainment of the object in view, he enumerates fair wages, comfortable houses, gardens for their vegetables and flowers, schools and other means of improvement for their children, sundry little accommodations and conveniences in the mill, attention to them when sick or in distress, and interest taken in their general comfort and welfare." He says that attention to these things, and gently preventing rather than chiding rudeness, ignorance, or immorality—treating people as though they were possessed of the virtues and manners which you wish them to acquire—is the best means of attaining the wished-for end; and that he has little faith in the efficacy of mere moral lectures. He established the order of the silver cross amongst the girls above the age of 17. It immediately became an object of great ambition, and a powerful means of forwarding the great object of refining the minds, tastes, and manners of the maidens, and through their influence, of softening and humanising the sterner part of the population. He says that he does not want to establish amongst the humbler classes the mere conventional forms of politeness as practised in the upper, but he would refine them considerably. He would have the most beautiful and tender forms of Christian charity exhibited in all their actions and habits, and mere preaching, rules, sermons, lectures, or legislation, can never change poor human nature if the people are not permitted to see what they are taught they should practise, and to hold intercourse with those whose manners are superior to their own. He points out the necessity of supplying innocent, pleasing, and profitable modes of filling up the leisure hours of the working-classes as the best mode of weaning them from drinking, and the vulgar amusements alone within their reach. He also points out that merely intellectual pursuits are not suited to uncultivated minds, and that resources should be

provided of sufficient variety to supply the different tastes and capacities which are to be dealt with. It is with these views that he provided various objects of interesting pursuit or innocent amusement for his colony, and established prizes for their horticultural exhibitions; and to show how the taste for music had progressed, he mentions that a glee class had been established, and a more numerous one of sacred music that meets every Wednesday and Saturday during winter, and a band had been formed with clarionets, horns, and other wind instruments, which practised twice a-week, besides blowing nightly at home; and a few families had got pianos, besides which there were guitars, violins, violoncellos, serpents, flutes, and dulcimers, and he adds that it must be observed that they are all of their own purchasing. He goes on to observe that his object is "not to raise the manufacturing operative or labourer above his condition, but to make him an ornament to it, and thus elevate the condition itself—to make the labouring classes feel that they have within their reach all the elements of earthly happiness as abundantly as those to whose station their ambition sometimes leads them to aspire—that domestic happiness, real wealth, social pleasures, means of intellectual improvement, endless sources of rational amusement, all the freedom and independence possessed by any class of men, are all before them—that they are all within their reach, and that they are not enjoyed only because they have not been developed and pointed out, and therefore are not known. His object is to show them this, to show his own people and others that there is nothing in the nature of their employment, or in the condition of their humble lot, that condemns them to be rough, vulgar, ignorant, miserable, or poor—that there is nothing in either that forbids them to be well bred, well informed, well mannered, and surrounded by every comfort and enjoyment that can make life happy; in short, to ascertain and prove what the condition of this class of people might be made, what it ought to be made—what it is the interest of all parties that it should be made."

In the name of our common humanity we thank him for the experiment which has so satisfactorily proved the truth of his propositions; and whilst wishing him God speed, we shall do what in our power lies to promote the benevolent object, by directing the attention of philanthropists to the good that may be effected by the unassisted efforts of a practical individual.

N.

## THE FORMATION OF DEW.

DURING summer, when the weather is sultry, and the sky assumes that beautiful blue tinge so entirely its own, dew is formed in the greatest abundance, owing to the phenomena which are requisite for its deposition being then most favourably combined. It was long supposed by naturalists that this precipitation depended on the cooling of the atmosphere towards evening, when the solar rays began to decline; but it was not properly understood until M. Prevost published his theory of the radiation of caloric (which has since been generally adopted), which was as follows:—"That all bodies radiate caloric constantly, whether the objects that surround them be of the same temperature of themselves, or not." According to this view, the temperature of a body falls whenever it radiates more caloric than it absorbs, and rises whenever it receives more than it radiates; which law serves to produce an equality of temperature. Such is exactly the case as regards the earth: during the day it receives a supply of heat from the sun's rays, and as it is an excellent radiator of caloric, as soon as the shades of evening begin to fall, the earth imparts a portion of its caloric to the air, and the atmosphere having no means of imparting its caloric in turn, except by contact with the earth's surface, the stratum nearest the earth becomes cooled, and consequently loses the property of holding so much moisture in the state of vapour, which becomes deposited in small globular drops. The stratum of air in immediate contact with the earth having thus precipitated its moisture, becomes specifically lighter than that immediately above it, which consequently rushes down and supplies its place; and in this manner the process is carried on until some physical cause puts a stop to it either partly or wholly. It is well known that dew is deposited sparingly, or not at all, in cloudy weather, the clouds preventing free radiation, which is so essential for its formation; that good radiators, as grass, leaves of plants, and filamentous substances in general, reduce their temperature in favourable states of the weather to an extent of ten or fifteen degrees below the circumambient air;